

## **Staff Summary**

### **Innovative Crude Oil Production Method Application**

#### **Crimson Resources Management, Corp. (Crimson)**

#### **SolarSense CA IV, LLC. (SolarSense)**

#### **Crimson 25A Thermal - 1.1 MW Solar Project**

#### **Kern County, California**

Date of Application: 11/30/2022

Date Posted for Public Comment: 03/10/2023

Date Approved: XX/XX/2023

### **Project Summary**

Under the Low Carbon Fuel Standard (LCFS), a crude oil producer or its designated joint applicant may generate credits for oil that has been produced using innovative methods and delivered to California refineries for processing. Pursuant to section 94589(c)(2) of the LCFS regulation, Crimson Resources Management Corp (Crimson), and SolarSense CA IV, LLC. (SolarSense), as the owner and operator of the Crimson 25A Thermal – 1.1 MW Solar Project (Project), have submitted a joint application for a proposed solar electricity project at Crimson’s 25A Oil Field in Kern County, California.

The project is estimated to generate approximately 2,582 MWh with a contractually guaranteed minimum production of 2,323 MWh of solar electricity in the first year of operation. The solar modules are subject to modest annual degradation that may decrease the solar electricity produced over time. All solar electricity generated by the project will be directly consumed onsite by Crimson’s crude oil production equipment at the oil field. Any incidental back-feed of solar electricity to the PG&E grid will be logged by Aclara kV2c™ bidirectional meter and deducted from total solar electricity in the LCFS credit calculation.

### **Photovoltaic Power Generation**

The Project is a 1.086 MW direct current (DC)/1.0 MW alternating current (AC) project, which consists of 2,784 solar photovoltaic (PV) modules, and 16×60 kW inverters converting the DC solar power to AC power used directly for Crimson’s oil production equipment at the 25A Oil Field. The project incorporates a single-axis tracking system to optimize power production.

### **Estimate of Innovative Method Credits and Carbon Intensity Reduction**

The Project will generate LCFS credits arising from the generation and use of solar electrical power onsite for crude oil production. Based on the contractually guaranteed minimum production of 2,323 MWh, emission reduction from solar electricity directly supplied to the oil field is estimated as 1,319 metric tons CO<sub>2</sub>e per year. The carbon intensity reduction from the baseline is 0.361 gCO<sub>2</sub>e/MJ, therefore, this project meets the eligibility criteria for the LCFS innovative crude oil production method provision.

### **Materials Provided by the Applicants**

The applicants have provided all the required application documentation, including a description of the innovative method, engineering drawings that illustrate the innovative method and clearly identify system boundaries and relevant process equipment, and a map including global positioning system coordinates for the facilities. The applicants have also shown that the project will meet the minimum threshold requirement for innovative method, and attest to the accuracy of the information submitted in the application to represent the intended long term, steady-state operation of the solar electricity project.

### **Reporting and Verification Requirements for Credit Issuance**

The following are subject to one-time verification as part of the initial verification process:

1. Solar facility, associated electrical equipment, and metering is built as described in the application.
2. Solar electricity is provided directly to the crude oil production facility, behind the utility meter.

Credit issuance based on 2023 data and thereafter requires third-party verification pursuant to section 95500(e). The method for calculating the net GHG reductions and credits described in this document requires ongoing monitoring and recordkeeping for the Project.

The applicants must report quarterly (through a Project Report) and maintain records for at least ten years showing the following:

1. The volume (barrels) of crude oil produced or transported using the approved innovative method and the crude name(s) under which it is marketed.
2. If the crude oil produced or transported with an approved innovative method is marketed as part of a crude blend that is not wholly refined in California, the name of the blend and the volume fraction that the crude produced with the innovative method contributes to the blend.
3. Documentation<sup>1</sup> showing the innovative crude was supplied to one or more California refinery, the total volume (barrels) of innovative crude supplied to California refineries, and the total volume (barrels) of innovative crude exported from California.

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<sup>1</sup> For such documentation, CARB will accept an attestation letter from each refinery, which should include the volume of crude oil received from the project operator and state that all crude oil received from the project operator is refined in California (no crude is exported out of state from the refineries). The innovative crude volume received by the refinery (refineries) must match the total volume produced by the project operator.

4. Metered data on solar electricity consumed at the crude oil production facilities during the quarter (kWh).
5. Metered data on solar electricity back-feed to utility grid during the quarter (kWh).
6. Metered data on total electricity consumed at the crude oil production facilities during the quarter (kWh); and
7. An attestation letter stating that all solar electricity was supplied directly for crude oil production and that the solar electricity reported for generating LCFS credit did not produce renewable energy certificates or other environmental attributes recognized or credited by any other jurisdiction or regulatory program, other than the market-based compliance mechanism set forth in title 17, California Code of Regulations Chapter 1, Subchapter 10, article 5 (commencing with section 95800)

**Staff Analysis**

Staff reviewed the joint application from Crimson and SolarSense, and finds that the application meets the requirements of the Innovative Crude Oil Production Method Credit Program per 95489(c) of the regulation. Staff is soliciting public comments on the proposed solar electricity project. Staff may approve the project if all the comments received during the comment period are addressed satisfactorily by the applicants. If approved, this project would be eligible for credits for GHG reductions occurring in Q1, 2023 and beyond. The actual amount of credits will be determined and issued after the verification of data and calculations. The applicants may elect to receive credits quarterly or annually.